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PRESENT STATUS OF THE BEAVER IN FLORIDA

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The beaver (*Castor canadensis*) formerly ranged over a considerable part of Florida. Skeletal remains have been reported from archeological sites in Jackson and Wakulla counties in the western part of the state (Bullen, 1958; Gut, unpublished data) and from the region of Volusia, Seminole, and Brevard counties in the peninsula (Allen, 1942; Gut, 1952; Neill et al., 1956; Rouse, 1951). Additional records from Columbia County (Gut, unpublished data; Simpson, 1930), Orange County (Gut, unpublished data), Seminole County and Volusia County (Gut, 1939, 1952) have been referred either with or without qualification to the Pleistocene, although Neill (1957) stated that the beaver probably did not enter peninsular Florida until the late preceramic Archaic period.

Native populations apparently persisted in Florida until at least the late 1800's. Bartram (1791) noted that there were " . . . a few beavers in East Florida and Georgia." In March, 1889, while visiting Marianna, William Brewster obtained evidence that beaver were present in some numbers on the Chipola River (Chapman, 1894). However, an indication that the species may have been generally rare by this time is the fact that it had earlier (Maynard, 1883) been considered, along with the bison, as no longer occurring in Florida.

Little information is available on the subsequent history and present status of Florida beaver populations. Sherman (1937) did not include the species in his list of Florida Recent land mammals, stating that: "Recently attempts have been made to introduce the beaver and muskrat, but these are not listed, as the success of these experiments is problematical." The beaver is included in a subsequent list of the mammals of the state (Sherman, 1952) but the basis for so doing is not stated. Hall and Kelson (1959) include extreme north-central and west Florida in the range of *Castor canadensis* in their distribution map of the species but do not cite any Florida localities under marginal records in the text. Pearson (1960) noted the presence of beavers in the Apalachicola River drainage system south of Chattahoochee, Florida, but gave no specific localities or indication of abundance.

The present data were obtained from 1955 through 1959, with

the major portion of the work being done in 1955 and 1956. Colonies were located through independent field work and with the aid of information received from local residents, personnel of the Florida Game and Fresh Water Fish Commission, and other sources. Aerial photographs were employed, with limited success, to locate new colonies and to verify the existence of reported ones. An effort was made to visit as many localities at which beavers were reported as possible in order to determine the status of the colony, if present, and obtain ecological data.

Distribution

Records of 24 colonies in 10 counties indicate that the beaver occurs in west Florida from the Ochlockonee River drainage (Gadsden County) to the Perdido River (reported but unexamined locality) in Escambia County. The majority of the colonies are located in the northern, more elevated part of this region, rather than in the relatively extensive Coastal Lowlands physiographic division of Cooke (1939). Although Hall and Kelson (1959) show the range of the beaver as extending into north-central Florida, apparently on the basis of Harper's (1927) records from the Okefinokee Swamp region of southeastern Georgia, our survey failed to provide any evidence of the occurrence of the species in this part of the state at the present time or recent past.

The only specimen actually examined in this study was an adult female live-trapped by Florida Game and Fresh Water Fish Commission personnel from the colony in the Jim Woodruff Reservoir Game Management Area (Jackson Co.) in December, 1959. This animal was accidentally killed, and its skin and skull are now No. 6376 in the University of Florida mammal collection. Its measurements were: total length, 1070 mm; tail, 375 mm; hind foot, 150 mm; ear from notch, 38 mm; ear from crown, 25 mm. It weighed 45.5 lbs. and contained 3 normal fetuses in the right uterine horn and a resorbing one in the left.

Some of the trappers and other persons interviewed during the course of field work claimed that although beaver were present in west Florida 50 years ago, a definite increase in numbers had only been apparent within the past 20 years. The present distribution pattern suggests that dispersal of animals from Alabama and Georgia along river systems common to these states and

Florida may have contributed to the reported population increase. According to Moore and Martin (1949), approximately 450 beaver were stocked in various parts of Alabama between 1940 and 1948. A number of these liberations were made within the drainage systems of such rivers as the Choctawhatchee, Shoal, Escambia, and Perdido that extend into Florida. Nine of the 24 Florida colonies listed here occur within these river systems. Beavers are also abundant on the Chattahoochee and Flint river systems in Alabama and Georgia (Moore and Martin, 1949; Jenkins, 1953), and these populations may also have been the source of some of the colonies occurring in Florida on tributaries of the Apalachicola River below the confluence of the Flint and Chattahoochee. Allen (1942) noted that a few beavers of the original southeastern subspecies (*C. c. carolinensis*) remained in the Flint River section in the southwestern part of Georgia and headwaters of the Chattahoochee. It is thus also possible that some of the present colonies in the upper Apalachicola area of Florida are descendants of this population.

Several presently known colonies can be traced to introductions or the dispersal of animals from sites of liberations, and others undoubtedly have the same origin, although actual evidence is lacking. The earliest stocking of which we have record was made in the early 1900's at the juncture of Blackwater and Coldwater creeks north of Milton in Santa Rosa County (Willie Carr, personal communication). Beaver sign was still present at this locality in 1955, but local residents claimed that no living animals had been observed in the area for more than 30 years. Based on Sherman's (1937) statement, other introductions most likely were made in the state during this period. Two other introductions reported to us were made on the Choctawhatchee River in 1944 (specific locality not determined) and on a small tributary (Davis Branch) of Little Alaqua Creek on the Eglin Air Force Base (Walton Co.) in 1945. In the latter instance, 8 animals were released by the Florida Game and Fresh Water Fish Commission. Shortly after the liberation a dam and lodge were constructed, and within a few years' time a number of dams appeared up and down stream from the original site, indicating relatively rapid dispersal.

The colonies recorded in this study are listed below.

Calhoun County:

1. Ammonia Lake, 6 miles S of Blountstown; reported.

Escambia County:

2. Goggle Eye Lake, Escambia River N of Pensacola; reported.
3. Perdido River, Barrineau Park; reported.
4. Escambia Creek, near Century; reported.

Franklin County:

5. Brickyard Creek, SW of Sumatra; reported.
6. Rattlesnake Slough, SW of Sumatra; reported.
7. Cricket Creek, SW of Sumatra; reported.

Gadsden County:

8. Tributary of Little River, 6 miles SE of Quincy; examined, active.
9. Pitts Hole, headwaters of Flat Creek, 8 miles SE of Chattahoochee; examined, active; ecological notes given below.
10. Flat Creek, 5 miles S of Chattahoochee; examined, active; ecological notes given below.

Holmes County:

11. East Pittman Creek, 13 miles NW of Bonifay; examined, active in June 1956, abandoned by November 1956; ecological notes given below.

Jackson County:

12. Jim Woodruff Reservoir, Florida Game and Fresh Water Fish Commission Management Area; reported active.

Liberty County:

13. Kelley Branch, 1 mile NW of Bristol; examined, active; ecological notes given below.
14. Rock Creek, Torreya State Park; examined, inactive.
15. Rock Bluff, 5 miles SE of Torreya State Park; reported.
16. Gunn Lodge, S of Bristol; reported.
17. New River, E of Wilna; reported.

Okaloosa County:

18. Pond (Juniper) Creek, 10 miles NW of Dorcas; examined, active.
19. Pine Log Creek, 1 mile NE of Dorcas; examined; active.

Santa Rosa County:

20. Junction of Blackwater River and Coldwater Creek, 5 miles NE of Milton; reported.

Walton County:

21. Florala, Lake Jackson; examined, active.
22. Crooked Creek, 11 miles SE of DeFuniak Springs; examined, active; ecological notes given below.
23. Little Alaqua Creek, Eglin Air Force Base, 9 miles SW of DeFuniak Springs; examined, active; ecological notes given below.
24. Rocky Creek, S of DeFuniak Springs; reported.

Ecological Notes

As so little is known of the ecology of the beaver at the southern periphery of its range, it seems worthwhile to give the following on 6 of the active colonies examined.

1. *Pitts Hole* (Gadsden Co., 8 mi. SE of Chattahoochee). This colony was located on a small spring-fed run. The first, and largest, of 5 beaver ponds lay at the head of the creek, flooding an area of from 25 to 30 acres. The dam was approximately 5 ft. long. The remainder of the ponds were considerably smaller, none with an area more than about 300 sq. ft. All the ponds were bordered on one side by steep banks and on the other by swamp. The higher, well-drained shores supported a stand of mixed pine and hardwoods. The principal woody plants that had been cut by beavers at this site included willow (*Salix* ssp.), sumac (*Rhus copallina),* beech (*Fagus grandifolia*), white bay (*Magnolia virginiana*), magnolia (*Magnolia grandiflora*), and wax myrtle (*Myrica cerifera*). Burrows had been dug in the high banks of the ponds, but no lodges were present.

According to local residents, beavers were first observed on this creek in the spring of 1948.

2. *Flat Creek.* (Gadsden Co., 5 mi. S of Chattahoochee). This colony was situated on a small stream with a sand bottom. When the site was first visited a single pond about one-half acre in extent was present. Four months later a second dam had been built that created a new pond about 2 acres in area. The original dam was in need of repair and appeared to have been abandoned.

The surrounding vegetation was typical of a ravine forest (Hubbell et al., 1956). Trees that had been cut and used for food included spruce pine (*Pinus glabra*), white bay, beech, and alder (*Alnus serrulata*). Many pine branches had been incorporated into the dam. In some places along the shore, almost every pine had been cut or gnawed upon while hardwood species remained untouched.

Bank burrows were found at both ponds. A lodge had also been constructed in the newer pond. It was 4 ft. high, 10 ft. long, and 6 ft. wide and was situated between two large alder clumps that provided support. Two underwater entrances, each about 1½ ft. in diameter and 2 ft. long, led to the nest chamber. The

latter was located about 4 in. above the water level and was about 2 ft. wide. A bed of leaves and dried grasses was found in the chamber. Button bush (*Cephalanthus occidentalis*) and spruce pine were recognized among the materials used in the construction of the lodge. Most of the sticks were 1 to 2 in. in diameter and 4 to 6 ft. in length.

3. *Kelley Branch* (Liberty Co., 1 mi. NW of Bristol). The colony at this site was situated on a short tributary of the Apalachicola River. The stream originates in an alluvial swamp. The banks are low near the beginning of the stream but gradually increase in height along its length, being about 10 ft. high where the stream enters the main river. The bottom is muddy and the water turbid. Six beaver ponds were found on the stream near its mouth. According to local residents beavers had originally constructed dams throughout the length of the stream, the largest being at its headwaters in the swamp. The impounded waters flooded nearby crops, and as a result some animals were trapped and the dams dynamited. Whether the population in the area during the present survey was a remnant of the original one or represented animals that had moved in from elsewhere could not be determined.

Vegetation typical of the alluvial swamp and hardwood river bottom associations of Hubbell et al. (1956) predominated at this site. Muscadine (*Vitis rotundifolia*) and water ash (*Fraxinus caroliniana*) were the principal plants cut for food. Other species utilized included river birch (*Betula nigra*), French mulberry (*Callicarpa americana*), hackberry (*Celtis laevigata*) and willow.

Bank burrows were the only type of homesite found. The entrances of some were as much as 2 ft. high and 2½ ft. wide.

Beavers had occupied this site since 1950.

4. *East Pittman Creek* (Holmes Co., 13 mi. NE of Bonifay). The colony at this locality was located in an alluvial swamp association. The dam was approximately 50 ft. long and the resulting ponds covered about 2½ acres. Woody plants utilized for food included alder, hackberry, red maple (*Acer rubrum*), and white bay. No lodge was present, but bank burrows were numerous.

5. *Crooked Creek* (Walton Co., 11 mi. SE of DeFuniak Springs). This stream was narrow and meandering, traversing swamp and hammock associations where the colony was located. Three dams

18 to 20 ft. long were present. The largest pond was about 20 acres, while each of 2 smaller ponds had an area of approximately 4 acres. The trees most frequently cut at this site included sweetgum (*Liquidambar styraciflua*) and tulip tree (*Liriodendron tulipifera*). A lodge had been constructed in the largest pond, while bank burrows were present in all ponds. Several bank burrows examined ranged from 20 to 25 ft. in length. Numerous cutting sites and trails were noted in the hammock area adjacent to the stream.

According to local residents, this locality had been in existence since at least 1946.

6. *Little Alaqua Creek* (Walton Co., 9 mi. SW of DeFuniak Springs). The colony here was established on a small, spring-fed tributary (Davis Branch) of Little Alaqua Creek. Although vegetation was dense along the banks of the stream, the general habitat type in which the colony was located was open longleaf pine (*Pinus palustris*)-turkey oak (*Quercus laevigatus*) woodland. One pond of about 5 acres and 10 smaller ponds were present. A lodge had been built in the largest pond. It was located about 40 ft. from shore and had the following dimensions: height, 3½ ft.; width, 6 ft.; and length, 10 ft. Bank burrows were found in all ponds.

The plants that had been most extensively utilized by beaver at this site included tupelo gum (*Nyssa aquatica*), white bay, wax myrtle, and goldenclub (*Orontium aquaticum*).

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Summary

Records of 24 colonies obtained from 1955 through 1959 indicate that the beaver is relatively widespread in western Florida.